

ABSTRACT OF THE DISCLOSURE

Charge-up damage to a substrate are reduced in a manufacturing process using plasma, and the reliability of a semiconductor device is improved. By forming an insulating film on the back of a substrate before a step of forming a first wiring layer, even if a plasma CVD method, a sputtering method, or a dry-etching method is used in a wiring-forming step executed later, then it is possible to suppress electric charges which are generated on the substrate and which flow to the ground potential through the substrate, and to prevent damage to the substrate due to charge-up.